AMENDMENTS TO THE CLAIMS

Please amend the subject patent application by adding new claims 38 – 73 in the following manner.

38. A method for producing a one-way barbed suture of flexible filament material, for use in holding patient tissue in which the one-way suture is inserted, comprising:

providing a suture filament material, having a side, a length, and a periphery,

providing a cutting blade,

cutting into the side of the suture filament material with the cutting blade at an oblique angle, to a pre-selected depth,

removing the cutting blade to leave a barb on the side of the suture filament material with orientation in one direction of the suture, and

repeating the cutting and removing steps at a series of locations along the length of the suture filament material and at different positions around the periphery of the suture filament material to produce a length of one-way suture with barbs oriented in a common direction.

39. The method of claim 38, wherein the step of removing the cutting blade includes removing the blade in such a way as to cause the barbs to extend outwardly from the periphery of the suture.

40. The method of claim 38, wherein the pre-selected depth of the barbs formed on the suture filament material is about 30 microns to about 100 microns.

41. The method of claim 38, wherein the cutting step is performed by a machine having a pair of parallel and moveable bars each with a plurality of cutting blades facing toward the suture filament material, the cutting blades being set at an oblique angle on the movable bars relative to the suture filament material, and including converging the bars with cutting blades inwardly and longitudinally relative to the suture filament material to form a series of barbs simultaneously.

42. The method of claim 41, wherein the step of removing the cutting blades comprises moving the bars apart without longitudinal movement relative to the suture filament material thus causing the formed barbs to extend outwardly from the periphery of the suture.

43. The method of claim 38, wherein the step of cutting into the suture filament material to form the barbs comprises using a pair of counter-rotating cutting wheels each having an outer surface and having cutting blades on the respective outer surfaces, the cutting blades being set obliquely relative to the suture filament material which passes between the cutting blades, and including holding the suture filament material to impose a resistance against movement of the suture filament material with motion of the cutting blades, the imposed resistance being sufficient to cause the cutting blades to cut into the side of the suture filament material while still allowing the suture filament material to advance with the motion of the opposed cutting wheels, the imposed resistance also causing the barbs to extend outwardly from the periphery of the suture.

44. The method of claim 38, wherein the barbs are formed at staggered positions along the suture filament material.

45. A method for producing a one-way, barbed suture of flexible filament material, for use in holding patient tissue in which the one-way suture is inserted, comprising:

providing a suture filament material,

providing a laser beam,

cutting the suture filament material with the laser beam to remove sections of material so as to produce barbs with orientation in one direction, thus producing a length of one-way suture with barbs oriented in a common direction.

46. The method of claim 45, wherein the barbs are at staggered positions along the suture.

47. The method of claim 45, wherein the barbs are formed in a spiral pattern on the suture.

48. A method for producing a double-armed barbed suture of flexible filament material, for use in holding patient tissue in which the double-armed suture is inserted, the double-armed suture having a length and having barbs oriented in one direction for a first portion of the length of the suture and in a direction opposite to the one direction for a second portion of the length of the suture, said method comprising:

providing a suture filament material having a side, a length and a periphery,

providing a cutting blade,

cutting into the side of the suture filament material with the cutting blade at an oblique angle, to a pre-selected depth,

removing the cutting blade to leave a barb on the side of the suture filament material with orientation in one direction of the suture, and

repeating the cutting step at a series of locations along the length of the suture filament material and at different positions around the periphery of the suture filament material to produce a length of one-way suture with barbs oriented in a common direction for a first portion of the length of the suture, and

repeating the cutting step in the opposite direction for the second portion of the length of the suture.

49. The method of claim 48, wherein the step of removing the cutting blade includes removing the blade in such a way as to cause the barbs to extend outwardly from the periphery of the suture.

50. The method of claim 48, wherein the pre-selected depth of the barbs formed on the suture filament material is about 30 microns to about 100 microns.

51. The method of claim 48, wherein the cutting step is performed by a machine having a pair of parallel and moveable bars each with a plurality of cutting blades facing toward the suture filament material, the cutting blades being set at an oblique angle on the movable bars relative to

the suture filament material, and including converging the bars with cutting blades inwardly and longitudinally relative to the suture filament material to form a series of barbs simultaneously.

52. The method of claim 51, wherein the step of removing the cutting blades comprises moving the bars apart without longitudinal movement relative to the suture filament material, thus causing the formed barbs to extend outwardly from the periphery of the suture.

53. The method of claim 48, wherein the step of cutting into the suture filament material to form the barbs comprises using a pair of counter-rotating cutting wheels each having an outer surface and having cutting blades on the respective outer surfaces, the cutting blades being set obliquely relative to the suture filament material which passes between the cutting blades, and including holding the suture filament material to impose a resistance against movement of the suture filament material with motion of the cutting blades, the imposed resistance being sufficient to cause the cutting blades to cut into the side of the suture filament material while still allowing the suture filament material to advance with the motion of the opposed cutting wheels, the imposed resistance also causing the barbs to extend outwardly from the periphery of the suture.

54. The method of claim 48, wherein the barbs are formed at staggered positions along the suture filament material.

55. A method for producing a double-armed barbed suture of flexible filament material, for use in holding patient tissue in which the double-armed suture is inserted, the double-armed

suture having a length and having barbs oriented in one direction for a first portion of the length of the suture and in a direction opposite to the one direction for a second portion of the length of the suture, said method comprising:

providing a suture filament material,

providing a laser beam,

cutting the suture filament material to remove sections of material so as to produce barbs with orientation in one direction, thus producing a length of one-way suture with barbs oriented in a common direction for a first portion of the length of the suture, and

repeating the cutting step in the opposite direction for the second portion of the length of the suture.

56. The method of claim 55, wherein the barbs are at staggered positions along the suture.

57. The method of claim 55, wherein the barbs are formed in a spiral pattern on the suture.

58. A surgical needle and suture combination, comprising:

a surgical needle having a trailing end,

a one-way suture having a series of exterior barbs providing for gripping of tissue in one direction only, the barbs permitting movement of the suture through tissue in the direction the needle is inserted,

a detachable connection means securing the trailing end of the needle to a leading end of the suture, for releasing the needle from the suture when the needle pulls the suture with a prescribed amount of tension, and

the needle having near its trailing end markings as a visual reference indicating distance from the trailing end of the needle, whereby a surgeon can predetermine a depth at which the needle is released from the suture by reference to the markings.

59. The surgical needle and suture combination of claim 58, wherein the suture is a double-armed suture, the suture having a length and having said exterior barbs oriented in one direction for a first portion of the length of the suture and in a direction opposite to the one direction for a remaining, second portion of the length of the suture, and including two said surgical needles, each being secured by a respective said detachable means to respective opposite leading ends of the suture.

60. The surgical method according to claim 16 for supporting skin and adjacent subcutaneous tissue of a patient in a facelift operation, said method further including:

providing tissue support in the facelift operation from the sutures themselves.

61. The surgical method according to claim 60 for supporting skin and adjacent subcutaneous tissue of a patient in a facelift operation, said method comprising:

the one-way suture being a double-armed suture having a length and having barbs oriented in one direction for a first portion of the length of the suture and in a direction opposite to the one direction for a remaining second portion of the length of the suture.

62. The surgical method according to any one of claims 16 for supporting skin and adjacent subcutaneous tissue of a patient in a facelift operation, wherein:

the one-way suture is a double-armed suture having a length and having barbs oriented in one direction for a first portion of the length of the suture and in a direction opposite to the one direction for a remaining second portion of the length of the suture.

63. The surgical method according to claim 17 for supporting skin and adjacent subcutaneous tissue of a patient in a facelift operation, wherein:

the one-way suture is a double-armed suture having a length and having barbs oriented in one direction for a first portion of the length of the suture and in a direction opposite to the one direction for a remaining second portion of the length of the suture.

64. The surgical method according to claim 19 for supporting skin and adjacent subcutaneous tissue of a patient in a facelift operation, wherein:

the one-way suture is a double-armed suture having a length and having barbs oriented in one direction for a first portion of the length of the suture and in a direction opposite to the one direction for a remaining second portion of the length of the suture.

65. The surgical method according to claim 20 for supporting skin and adjacent subcutaneous tissue of a patient in a facelift operation, wherein:

the one-way suture is a double-armed suture having a length and having barbs oriented in one direction for a first portion of the length of the suture and in a direction opposite to the one direction for a remaining second portion of the length of the suture.

66. A machine for producing a barbed suture of flexible filament material, the suture filament material having exterior walls, the barbed suture being for use in holding patient tissue in which the barbed suture is inserted, said machine comprising:

a pair of movable and parallel bars, each of the two bars having a surface and set of cutting blades on each respective surface, the two sets of cutting blades being in facing relationship and being of a size and spacing to form the barbs in a desired size and spacing,

each of the two bars with the two respective sets of cutting blades being adapted to converge inwardly and downwardly in order to engage the two sets of cutting blades into the

exterior walls of the suture filament material to produce cuts and adapted to be then removed from the cuts, thereby producing a barbed suture.

67. The machine according to claim 66, wherein the bars are adapted for the blades to cut while the suture material is held stable and the bars are moved inwardly and downwardly.

68. The machine according to claim 66, wherein the bars are adapted for the blades to cut while the suture material is advanced upwardly and the bars are moved inwardly.

69. The machine according to claim 66, wherein the bars are adapted to be removed from the cuts by spreading the two bars outwardly, without longitudinal movement of the cut suture material.

70. A machine for producing a barbed suture of flexible filament material, the suture filament material having exterior walls, the barbed suture being for use in holding patient tissue in which the barbed suture is inserted, said machine comprising:

a pair of rotatable cutting wheels, each of the two wheels a surface and set of cutting blades on each respective surface, the two sets of cutting blades being in facing relationship and being of a size and spacing to form the barbs in a desired size and spacing,

each of the two wheels with the two respective sets of cutting blades being adapted to converge inwardly and downwardly in order to engage the two sets of cutting blades into the exterior walls of the suture filament material to produce cuts and adapted to be then removed from the cuts, thereby producing a barbed suture.

71. The machine according to claim 70, wherein the wheels are adapted for the blades to cut while the suture material is held stable and the wheels are moved inwardly and downwardly.

72. The machine according to claim 70, wherein the wheels are adapted for the blades to cut while the suture material is advanced upwardly and the wheels are moved inwardly.

73. The machine according to claim 70, wherein the wheels are adapted to be removed from the cuts by spreading the two wheels outwardly, without longitudinal movement of the cut suture material.